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## Martin E. Mosely: entomologist and flyfisherman<sup>1</sup>

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**A b s t r a c t :** The life and works of Martin E. Mosely are described in detail. Mosely was equally well-known in the worlds of entomology and fly-fishing, and he was one of the most important authors to combine these two fields.

**K e y w o r d s :** Martin E. Mosely, Frederic M. Halford, Trichoptera, fly-fishing history.

During the early part of the twentieth century, M.E. MOSELY was well-known in entomological circles for his research on Trichoptera, but he was equally famous in the world of flyfishing, both as an author and angler. His interest in freshwater insects seems to have grown from his flyfishing background, though both subjects were hobbies of his, being a banker by profession. By building on the similar interests of his great friend and distant relative, Frederic M. HALFORD, Mosely was arguably the greatest authority to combine a knowledge of fishing and entomology since the pioneering author Alfred RONALDS in the early nineteenth century. Very little was published about Mosely when he died in 1948 and this paper is an attempt to add more detail to what is known about him.

Born Martin Ephraim Mosely on 6 August 1877 in Newcastle on Tyne, Northumberland, his father (Alfred Isaiah Mosely, 1838-1879) was from a well-known family of Jewish dentists. Mosely's paternal grandfather (Ephraim Mosely, 1807-1873) was a dentist in Grosvenor Square, London and was the author of a small book with the grand title "Teeth, their natural history: with the physiology of the human mouth, in regard to artificial teeth" (MOSELY 1862). The book contains amusing platitudes such as "Teeth! without which the human face is a moping, melancholy mask" and "Teeth, the armed *aegis* of life!" Fortunately such inflated language does not seem to have passed down to his grandson; Martin Mosely became known for his direct way of speaking and straightforward, informative writing.

Alfred Mosely died at the early age of 41, just five years after his marriage to his French-born wife Malvina Marian (née Schlesinger). She thus became a widow at only 26, with two young children, Martin aged two and his sister Julia aged four. In 1881 she was managing the dental practice of her former husband at 10 Eldon Square, Newcastle on Tyne ("employing 2 men and 1 boy") though her mother (also widowed) had come to live with her. As well as two domestic servants they also had a nurse to look after the two children, so there were apparently no financial difficulties for the family. By 1891 the 13 year old Martin was living with his mother and older sister (and two servants) in 33 Canfield Gardens, Hampstead, London; his mother was now financially independent and had apparently given up the dental business.

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<sup>1</sup> This paper is dedicated to Prof. Dr. Hans Malicky on the occasion of his 75<sup>th</sup> birthday.

Martin Mosely was to live in London for the rest of his life, mainly in Kensington. By 1901 he had moved to 13 Addison Road, Kensington, still with his mother and sister, who had become financially independent like her mother; there was now just one servant. Martin's occupation was described in the UK census as a banker's clerk, though it is not known where he was employed.

It is not clear when Mosely's interest in flyfishing began, though it probably arose from a close friendship with Frederic M. Halford (1844-1914). Halford was a famous flyfisherman in the late nineteenth century, particularly known for his uncompromising views on dry-fly fishing on the chalk streams of southern England, and for his belief that the exact imitation of natural flies was essential for tying artificial flies. He wrote several important books including *Dry-Fly Entomology* (1897) in which he tried to show how the knowledge of freshwater insects was vital for the successful angler. Despite some input from the Rev. A. E. EATON, the authority on Ephemeroptera, the book was not a great success, as its lengthy extracts from the works of F. J. PICTET, R. MCLACHLAN and EATON were too theoretical for the average angler. In fact several of Halford's books were considered rather dull; despite being well-researched and earnestly written they often failed to inspire their intended audience. Nevertheless, Halford's interest in entomology seems to have passed on to the younger Mosely. Some popular texts have suggested that Halford was Mosely's uncle, but this is not so; their relationship was far more distant in that Halford's son (Ernest Samuel Halford) had married one of Mosely's many cousins (Constance Rachel Mosely) in 1895 and the two families were therefore related only by marriage, not by a common ancestry. However, it is quite likely that Mosely regarded Halford as a father-figure, given that he had never really known his own father. After his wife died in 1907 Halford was always pleased to invite Mosely down to fish with him at Mottisfont on the River Test in Hampshire; a small lake near Mottisfont was later to become famous as a site for several rare Hydroptilidae collected by Mosely, especially as the type-locality of *Orthotrichia tragetti* MOSELY.



**Fig. 1:** Photo of Martin E. Mosely in 1912, from FRANKS (1956).

While Mosely's profession as a banker progressed, it is clear that fishing was his main hobby. He was elected to the Fly Fishers' Club in 1905 and by then he was becoming a well-known figure on some of the famous trout streams of southern England, such as the rivers Test, Kennet and Lambourne. Some evidence for this comes from a little-known book published by another flyfisherman active at the same time, Hugh G. FRANKS. He described a meeting in September 1910 with Martin Mosely "whom I had known for many years as a very keen fly fisher". Mosely wanted to tell Franks about the possibility of leasing a stretch of the River Test in Hampshire for private fishing, a deal that was initiated by Mosely's "great friend, Frederic M. Halford" (FRANKS 1956). Although Franks and other colleagues continued to fish on that stretch of river for ten years, Mosely "retired" from the syndicate in 1912, though why he did so is not explained. Franks also recalls how Mosely had a narrow escape from drowning while fishing in a river in Ireland, when his waders filled with water and he lost his balance. Mosely, however, "remained quite calm and collected, pipe in mouth and rod in hand and swam to the other bank". Afterwards

they decided that he was saved by not wearing a belt, which would have kept his waders full of air, leaving him unable to swim. Franks only regretted not having taken a photo of the incident! There are several photos of Mosely in Franks' book, one of which is reproduced here (Fig. 1); the rifle was for shooting rats and other vermin on the river bank!

Mosely's influence in the Fly Fishers' Club began as a result of the setting up of a Natural Fly Committee in 1901 by Halford. The Committee's intention was to encourage members of the club to study and collect natural insects, and Halford donated his own collection to the Club, housed in a specially made cabinet. The specimens were stored in formalin, sealed into glass blocks, and Mosely was later to describe the method of preparing these specimens in his first book (MOSELY 1921). Mosely joined the Committee in 1905 and became the most active member after Halford's death in 1914. He continued to add to the collections, which needed a second cabinet to contain them, and he also donated a synoptic collection of pinned British Trichoptera to the Club. The latter collection is still one of the Club's prized possessions, though one of the two cabinets of fluid-preserved specimens was destroyed in World War II. Mosely distributed specimen tubes to other members of the Club, to encourage them to collect insects and send them to him for identification, and in the history of the Club we read that "Mosely deserves well of the Club, for he took his work *con amore* . . . his enthusiasm was unbounded" (ANONYMOUS 1934). He also served on the General Committee of the Fly Fishers' Club, and assisted the editor of the journal from its beginning in 1911 until 1931.

In 1910 Mosely became a Fellow of the Entomological Society of London, a clear indication of his growing interest in entomology, which had arisen from his frustration at being unable to identify all the insects he encountered while fishing. His application to join the Society was proposed by the well-known Orthopterist Malcolm BURR (who was a member of the Society's Council at the time) and seconded by Kenneth J. MORTON, whom Mosely must have known from a shared interest in freshwater insects. Morton had been a member of the Society since 1893 and the mayfly expert Rev. A.E. EATON was a member from 1865 till his death in 1929. Even Halford had briefly been a member from 1893-1895, while writing his book on dry fly entomology (HALFORD 1897) and he had acknowledged Eaton's assistance in the preface of the book.

Mosely recognised the need for a practical handbook to the freshwater insects used by anglers, less academic than Halford's volume, and he realised that the only way to achieve such knowledge was to devote much of his spare time to a wide-ranging study of Ephemeroptera, Plecoptera and especially Trichoptera. Being a practical man, his studies were not confined to the laboratory and microscope, and he continued to spend much time studying insect life cycles and behaviour in the field. In one of his obituaries he was described as "a familiar figure armed with collector's net and bottles, almost as often as with a fishing rod" (ANONYMOUS 1949). An indication of when he began to collect and preserve insects can be seen in his paper on scent-organs in *Hydroptila* where he describes preservation in formalin and says that he had a collection of "several thousand Trichoptera, etc., so preserved, collected more than fifteen years ago" (MOSELY 1923).

Following Halford's sudden death in March 1914, Mosely had the opportunity to complete his new text on entomology for anglers. He had already had some input to various sections of Halford's last book (HALFORD 1913) but now he was able to pursue his own ideas. Sadly his project was interrupted by the outbreak of World War I and Mosely went on active service as a Corporal in the East Surrey Regiment and later the Royal Fusiliers. After the war the difficulty of finding a suitable artist to prepare the colour plates for his book caused more delays; the book was finally completed in 1920 and published the following year (MOSELY 1921). Mosely was not happy with the result because the plates were not of the standard he

wanted, and production costs had risen so sharply that the selling price of 2 guineas was prohibitive to some potential buyers. (When Mosely's important book on the British caddis flies appeared eighteen years later, at the price of only 1 guinea, his first book was still being advertised by the publishers, a probable indication of how badly it was selling.) His second book, dealing with aspects of insects in connection with fishery management, was essentially the compilation of a series of articles he had published in *Salmon and Trout Magazine* and the *Journal of the Fly-Fishers' Club* (MOSELY 1926).

Nonetheless, Mosely's reputation as an entomologist was now becoming established and he began publishing scientific papers in 1920. One might expect an amateur to start with an easy group to study, yet Mosely's earliest papers were on the minute Hydroptilidae, a family that always remained one of his favourites. His field observations were matched by an interest in microscopy and photomicrography, and some of his earliest works were illustrated by photos that he had taken through the microscope (e.g. MOSELY 1923). Throughout the 1920s he actively collected Trichoptera in France and Switzerland, as well as in Britain, and he also visited Corsica in 1928 and 1931. His insect collecting often coincided with fishing trips, such as to Ireland in 1926 (MOSELY 1930b). One extended collecting trip in Switzerland from June to September 1927 was said to be due to his ill-health yet he described "many stiff climbs" in the mountains (MOSELY 1933) so the nature of his illness does not appear to have restricted his collecting!

In 1929, aged 52, Mosely retired from his banking profession and devoted the rest of his life to entomology and flyfishing. That same year he joined the British Museum (Natural History) as an "unofficial scientific worker" (which would now be called a scientific associate) and was to work there on the Trichoptera collections for the next twenty years. For ease of working, Mosely kept his own large collection of European Trichoptera at the museum, but it did not become museum property until his death. At the BMNH he began working with the 24 year old Douglas E. KIMMINS (1905-1985) who had started work there in 1925, also as an unofficial scientific worker. Kimmins was working on the freshwater insects and Neuroptera but did not take over the Trichoptera until after Mosely's death. As an accomplished artist, Kimmins was also paid to prepare drawings for other scientists at the museum and he quickly became the main illustrator for Mosely's scientific papers, the two workers sharing a room at the museum for many years. Kimmins was to prepare hundreds of drawings for Mosely and some of the early drawings have a discreet "K" by them, but often Kimmins's input was not mentioned. A significant exception was Mosely's handbook to the British Trichoptera, where he acknowledged that his colleague's understanding of genitalic structures had made an important contribution (MOSELY 1939).

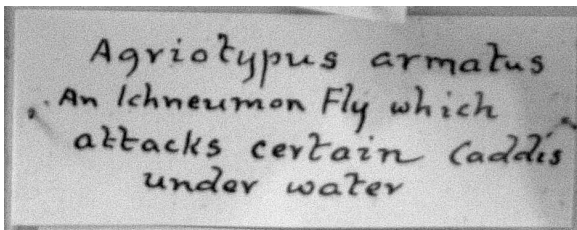


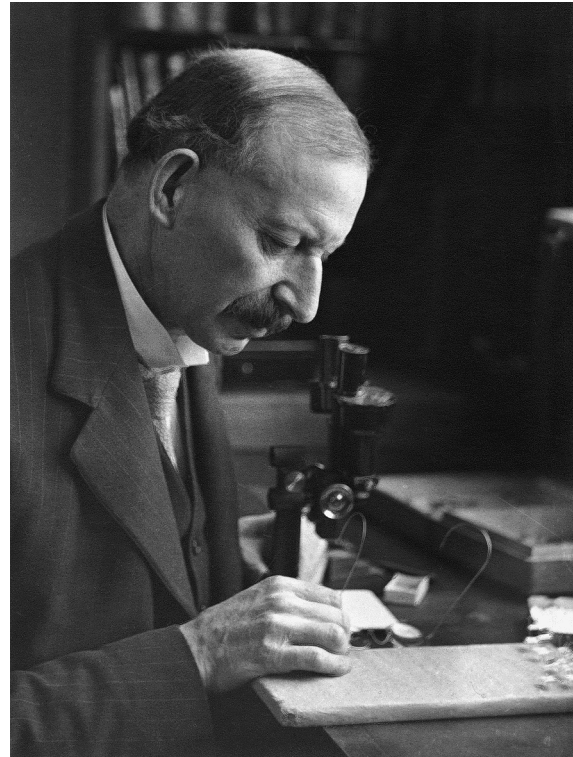
Fig. 2: M.E. Mosely's distinctive handwriting.

For the final twenty years of his life, Mosely was to write over 100 scientific papers, a remarkable achievement for someone who was essentially an amateur entomologist with no formal training. Although some of his work is now out of date, many of his papers were highly significant at the time, such as his series on the Indian caddis flies and his work on the Hydroptilidae. He was a conservative worker

whose techniques and views were rooted in the past, rather than being forward-looking, not surprising for a self-taught scientist. Although he had contact with both Morton and Eaton there is no evidence that he ever met Robert MCLACHLAN (1837-1904) who had died before Mosely's entomological interests were fully developed. However, there is no doubt that

Mosely based his whole style of working on that of McLachlan. His insect labels, found throughout the BMNH Trichoptera collection, bear his distinctive writing, with its backward loops on letters such as d, l and t (Fig. 2).

Towards the end of the 1930s Mosely began to see the need for a monograph on the British Trichoptera. In 1937, while he was working on this book, a young student named Norman E. HICKIN (1910-1990) approached Norman D. RILEY, Keeper of Entomology at the BMNH, to ask advice about which group of immature insects to begin studying. Riley recommended the Trichoptera because he knew from discussions with Mosely that the larval stages of this group were almost unknown in Britain. In fact Mosely had kept some freshwater insects in an aquarium at the museum to observe emergence of adults and other aspects of their life-cycle, though the chemically treated London tap-water created some problems. Thus began Hickin's well-known work on caddis larvae and Mosely was to act as advisor on his early papers, identifying reared adults and generally supervising his studies. Following Hickin's death an unlabelled photograph was found among his papers, and this was suspected of showing Mosely in later life, especially as it seems to have been taken in the BMNH (Fig. 3). The facial features in this photo were recently analysed and compared with those in earlier photos such as Fig. 1 by Dr Ray Evans, an expert on facial recognition at the University of Manchester. We can now be reasonably certain that this later photo does indeed depict Mosely.



**Fig. 3:** M.E. Mosely in later life, a previously unpublished photo from N.E. Hickin's collection.

The late 1930s were to prove a busy time for the Trichoptera collections at the museum because in 1938, just as Mosely's book was being completed, the McLachlan collection arrived at the BMNH. Although McLachlan had died in 1904, his collection had remained in the care of his nephew until the latter's death in 1938. The collection, consisting of freshwater and neuropteroid orders, turned out to be the largest of these insect groups that the museum had ever received, totalling over 50.000 specimens with at least 500 primary types. Mosely and Kimmins sorted, labelled and catalogued these specimens, a huge task, but one which greatly assisted their own research on these groups.

Although Mosely was working hard on Trichoptera, he never neglected his interest in flyfishing throughout this period. An attack of phlebitis in 1934 left him unable to stand for long periods, which curtailed his fishing activities, but he continued to be an active correspondent in the flyfishing journals through the 1930s and 1940s. In these numerous articles a dry sense of humour emerges, not seen in his scientific papers, which leads one to suspect that he was not the dull didactic that he sometimes appears to be. Proof of his continued commitment to both entomology and fishing is seen in his masterly paper on the term "mayfly" (MOSELY 1937) in which humorous comments are combined with an

authoritative history of literature on angling in a comprehensive discussion on whether the word applies to the whole of the Ephemeroptera or just to the genus *Ephemera*. This was not just an academic question, and the matter is still debated today. It was also highly appropriate that Mosely should have investigated the Ronalds' collection of insects in Oxford University (MOSELY 1930a). Alfred RONALDS made the first serious attempt to match natural flies with their artificial counterparts tied by flyfishermen (RONALDS 1836) and Mosely can be regarded as the next significant contributor in this field.

Despite his unofficial and part-time status at the BMNH Mosely was always considered as being in charge of the Trichoptera collections. When Cornelius BETTEN from Cornell University visited the museum in 1936 to re-assess the types of North American Trichoptera described in the nineteenth century by Francis WALKER it seemed natural for him to collaborate with Mosely on the project. The resulting book eventually covered all the Walker Trichoptera types and Betten readily agreed to joint authorship (BETTEN & MOSELY 1940); as usual, the numerous illustrations were by Kimmins though his contribution was only acknowledged in a single sentence in the book's introduction.

In 1947 Mosely suddenly left the Royal Entomological Society, apparently not because of any reduction in his interest in the subject, but as one of several members who resigned that year in protest at the raised membership fees!

Through the first half of 1948 Mosely was working as hard as ever, writing letters, answering enquiries about freshwater insects and working on manuscripts, but some time in August he started to feel unwell. On 29 August he suffered a heart attack and died on the following day, aged 71. Several of his papers were published posthumously, some being completed by Kimmins, of which the most notable was their seminal book on the Trichoptera of Australia and New Zealand (MOSELY & KIMMINS 1953).

Since Mosely died over 60 years ago it is difficult to gain much of an impression of his character. His scientific papers are sometimes rather tersely and awkwardly written, and he seems to have been more relaxed when writing articles in angling journals, where his quiet sense of humour could show through. Most of the published obituaries say very little about Mosely as a man, rather than as an entomologist or angler. Some former members of staff at the BMNH remembered him as being rather abrupt and short-tempered, but this may have been due to his circulatory and heart problems in later life, which limited his mobility. Even the obituary by Kimmins is quite short and factual, giving no hints about Mosely's character (KIMMINS 1948) and one has to wonder about the nature of the working relationship between the two men. However, Kimmins sprang to Mosely's defence in 1955 in a sharply worded letter to Fernand SCHMID (1924-1998). In his review of the Limnephilidae Schmid had criticised some of Mosely's rather ill-defined genera in the Stenophylacinae (SCHMID 1955), and Kimmins retorted "I am sorry that you feel yourself compelled to make such a scathing condemnation of my colleague Mosely's work", going on to point out how Mosely was not a professional entomologist but that his insect studies arose from his hobby of angling.

Mosely could, however, be very critical of others. On seeing a copy of Louis RHEAD's *American Trout Stream Insects* (RHEAD 1916) he wrote to his friend John HENDERSON "If this is the only work on American trout flies, I am sorry for the American fisherman."

After his death, Mosely's estate was valued at over £13,000, a sizeable sum of money at the time, most of which was left in trust to his niece, Kate Margaret YATES (1910-1991), since Mosely himself had never married. All of his insect collections, scientific books and instruments, together with the manuscript of Halford's "The Dry Fly Man's Handbook" were left to the BMNH. His Trichoptera collection contained nearly 8000 specimens, mainly from

Europe. As well as being an impressively comprehensive collection of pinned specimens it also included many hundreds of meticulously prepared microscope slides. Mosely's slides are easily recognised by their distinctive labels: in the example illustrated here (Fig. 4) his initials "MEM" appear in the bottom right-hand corner and the letters C/B in the left-hand corner refer to the mountant, Canada Balsam. He described the detailed methods for making these slide mounts in one of his later papers (MOSELY 1943). His collection also included many hundreds of specimens preserved in fluid, and a small display cabinet of fluid-preserved freshwater insect larvae and other invertebrates, sealed into glass blocks, very similar to the collection in the Flyfishers' Club (Fig. 5). This may be the "collection of the food organisms eaten by trout" that was described as being on exhibition for many years at the BMNH (ANONYMOUS 1949).



**Fig. 4:** Typical label from a Mosely slide preparation.



**Fig. 5:** Drawer from a display cabinet of freshwater invertebrates prepared by M.E. Mosely.

Summing up such a unique and enigmatic man as Mosely is difficult, and one can do no better than to quote from Riley's Introduction to *The British Caddis Flies* (MOSELY 1939): "It is impossible to say of Mr. Mosely whether the fisherman gave birth to the trichopterist or *vice versa*. The union has, however, proved an unusually fertile one."

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## Zusammenfassung

Das Leben und die Arbeiten von Martin E. Mosely werden im Detail beschrieben. Mosely war in den Welten von Entomologie und von Fliegenfischen weithin bekannt, und er war einer der wichtigsten Autoren, um diese zwei Themen zu kombinieren.

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